

REMARKS

Status of Application

Claims 1-18 are pending in the application; the status of the claims is as follows:

Claims 15-18 are withdrawn from consideration.

Claims 1-14 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Application Publication No. US 2004/0242398 A1 to Mori et al. ("Mori") in view of U.S. Patent No. 7,040,953 to Matsuno et al. ("Matsuno").

Claims 1-14 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,303,528 to Speit et al. ("Speit") in view of Matsuno.

Claim 1 has been amended to more particularly point out and distinctly claim the invention. No new matter is introduced by this amendment.

Claim 2 has been cancelled.

35 U.S.C. § 103(a) Rejections

The rejection of claims 1-14 under 35 U.S.C. § 103(a), as being unpatentable over Mori in view of Matsuno, is respectfully traversed based on the following.

Claim 1, as currently amended, recites:

A chemically strengthened glass substrate for an information recording medium, wherein a strengthened layer formed by chemical strengthening exists on an outer edge surface and on an inner edge surface but substantially not on a surface on which an information recording layer is formed,

wherein, on the surface on which the information recording layer is formed, the glass substrate comprises the following glass ingredients:

40 to 75 % by weight of SiO₂;
3 to 20 % by weight of Al₂O₃;

The present rejection asserts that claim 1 is a product-by-process claim, and cites MPEP § 2113 for the premise that when considering the patentability of a product-by-process claim, only the structure implied by the steps, and not the process itself need be considered. Therefore, the structure disclosed in Mori must be considered when assessing whether the cited references render claim 1 obvious.

Chemically strengthening a glass substrate alters the physical structure of the exposed surfaces. (Specification, Paragraph [0008]). Therefore, claim 1 requires a glass substrate with two different surface physical structures or compositions: (1) a surface on which an information recording layer is formed, comprised of the materials listed in claim 1, and (2) chemically strengthened inner and outer edge surfaces.

Matsuno teaches a glass substrate that has been chemically strengthened and the strengthened layer is removed from the unwanted sides by polishing. (See Mori, column 2, line 31 to column 3, line 45). However, Matsuno does not disclose the composition of the glass itself. Instead, the current office action relies upon Mori for this composition.

Mori teaches a glass substrate with a composition that provides high mechanical strength and high rigidity without chemical strengthening. (Mori, Paragraphs [0010]-[0019] “[a]n object of the present invention is to provide a glass substrate ... that has high mechanical strength without being treated by strengthening.”). Because the glass substrate in Mori is formed from one continuous piece of glass, and none of the surfaces in Mori are chemically strengthened, the surfaces of the glass substrate have a uniform composition. This is unlike the invention of claim 1 in which the composition of the recording surface differs from the composition of the chemically strengthened inner and outer edge surfaces. Although the examiner asserts that combining the glass substrate disclosed in Mori with the chemical strengthening process disclosed in Matsuno would be obvious, the glass substrate disclosed in Mori already has high mechanical strength and high rigidity *without* chemical

strengthening. Thus there is no motivation or suggestion to combine these references, and the present rejection of claim 1 fails to show an adequate rationale as to why this combination would be obvious.

Additionally, the combination of these references is unexpected to be satisfactory. By their very nature, glass substrates are subject to breakage. In order to form a chemically strengthened glass substrate suitable for use as an information recording medium that has the structure described in claim 1, chemical strengthening is required. Fabrication of a chemically strengthened glass substrate can cause the destruction of, or damage to, the glass substrate. (Specification, Paragraph [0014]). It is expected that more rigid a glass substrate is, the more likely it is to break during fabrication. Thus, the combination of the rigid disk in Mori with the chemical strengthening process disclosed by Matsuno would not be expected to be successful and there is no motivation or suggestion within these references to combine them.

For at least these reasons, Mori and Matsuno cannot render claim 1 obvious. Furthermore, claims 2-14 depend from claim 1 and contain all the limitations of claim 1. Therefore claims 2-14 must be allowable for at least the same reasons. Accordingly, it is respectfully requested that the rejection of claims 1-14 under 35 U.S.C. § 103(a) as being unpatentable over Mori in view of Matsuno be reconsidered and withdrawn.

The rejection of claims 1-14 under 35 U.S.C. § 103(a), as being unpatentable over Speit et al. in view of Matsuno et al., is respectfully traversed based on the following.

As discussed previously, although Matsuno teaches a glass substrate that has been chemically strengthened in which the strengthened layer is removed from the unwanted sides by polishing, it does not teach the glass composition required by claim 1. (See Matsuno, column 2, line 31 to column 3, line 45).

Speit discloses a glass substrate of a specific composition that is chemically strengthened where the chemically strengthened surface on which the recording layer will be

formed is polished. (Speit, Column 4, Lines 23-32, Column 7, lines 4-29). Although Speit discloses removing some of the chemically strengthened layer, it does not state that substantially all of the strengthened layer is removed from the surface on which an information recording layer will be formed as required by claim 1.

Although Matsuno teaches removing all of the strengthened layer by polishing, one of ordinary skill in the art would have no motivation to combine the two references, as the invention disclosed in Speit is completely functional without removing the entire strengthened layer, and removal of the entire strengthened surface layer initially appears to subject the substrate to unnecessary processing and opportunity for breakage. Thus there is no motivation or suggestion to combine these references, and the present rejection of claim 1 fails to show an adequate rational as to why this combination would be obvious.

For at least these reasons, Speit and Matsuno cannot render claim 1 obvious. Furthermore, claims 2-14 depend from claim 1 and contain all the limitations of claim 1. Therefore claims 2-14 must be allowable for at least the same reasons. Accordingly, it is respectfully requested that the rejection of claims 1-14 under 35 U.S.C. § 103(a) as being unpatentable over Speit in view of Matsuno be reconsidered and withdrawn.

CONCLUSION

Wherefore, in view of the foregoing amendments and remarks, this application is considered to be in condition for allowance, and an early reconsideration and a Notice of Allowance are earnestly solicited.

This Amendment does not increase the number of independent claims, does not increase the total number of claims, and does not present any multiple dependency claims. Accordingly, no fee based on the number or type of claims is currently due. However, if a fee, other than the issue fee, is due, please charge this fee to Sidley Austin LLP Deposit Account No. 18-1260.

Application No. 10/784,447
Amendment dated September 9, 2008
Reply to Office Action of May 13, 2008

If an extension of time is required to enable this document to be timely filed and there is no separate Petition for Extension of Time filed herewith, this document is to be construed as also constituting a Petition for Extension of Time Under 37 C.F.R. § 1.136(a) for a period of time sufficient to enable this document to be timely filed.

Any other fee required for such Petition for Extension of Time and any other fee required by this document pursuant to 37 C.F.R. §§ 1.16 and 1.17, other than the issue fee, and not submitted herewith should be charged to Sidley Austin LLP Deposit Account No. 18-1260. Any refund should be credited to the same account.

Respectfully submitted,

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